POWERING FORWARD

2025 MICROGRID INVESTMENT OUTLOOK

Mortenson®

KEY INSIGHTS

Microgrid leaders across the U.S. highlight rising investments driven by resilience, reliability, and cost savings, despite challenges like high upfront costs and regulatory hurdles. Key solutions include third-party financing, affordable batteries, smarter controls, modular designs, and supportive policies. Lessons from pioneers emphasize stakeholder engagement, clear value propositions, resilience, and rethinking financing strategies.

ABOUT THIS STUDY

We asked over 100 professionals at the 2025 Microgrid Knowledge Conference about their views on the microgrid investment outlook and industry trends.

Survey participants included executives from end-users, project developers, utilities, EPC firms, consultants, technology providers, and financial institutions.

01 MOMENTUM IS BUILDING

MICROGRID INVESTMENT IS BUILDING MOMENTUM

When asked about microgrid investment activity, 90% of respondents said it's growing, with nearly half describing it as *growing rapidly*.

NO DECLINE:

No respondents reported a decline – a powerful signal that the industry is moving forward.

ENERGY JUSTICE AND CLIMATE RESILIENCE:

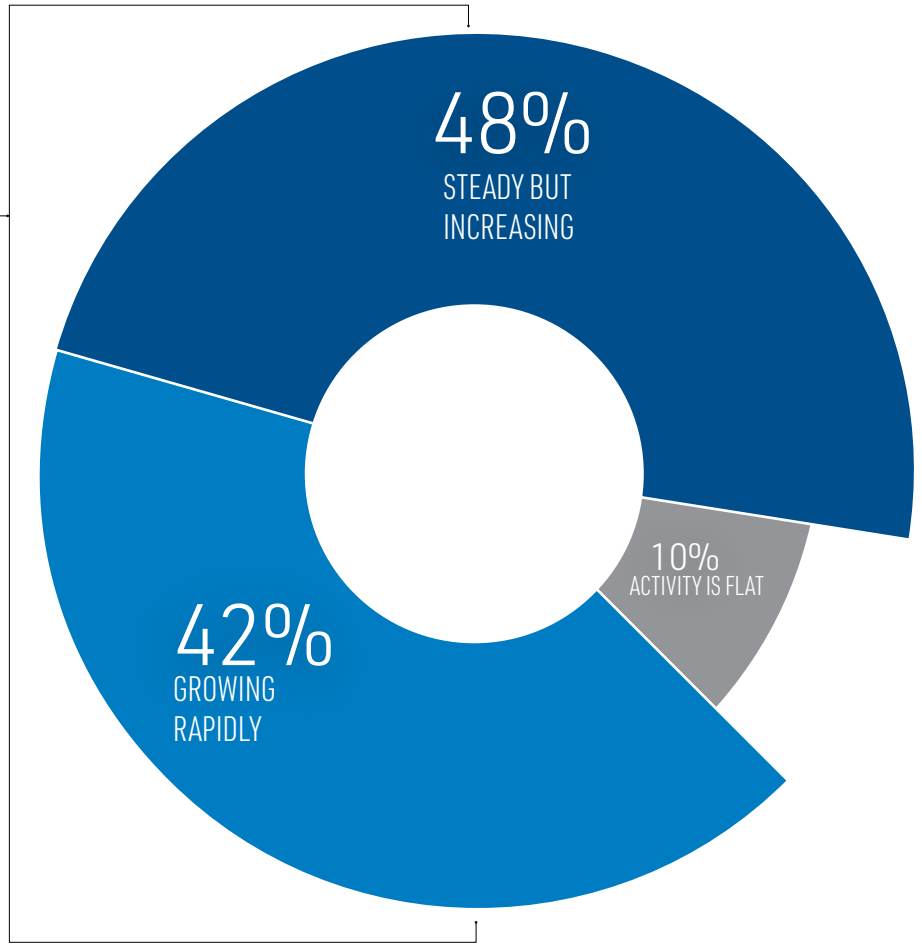
Developers noted a growing focus on energy justice and climate resilience in funding, driving equitable microgrid growth and investment in underserved communities.

FUTURE GROWTH POTENTIAL:

Data centers, hospitals, industrial facilities, and government/military sites top the list for future growth potential–clear signals that microgrids are moving into mission critical territory.

HOW WOULD YOU DESCRIBE THE CURRENT LEVEL OF INVESTMENT IN MICROGRIDS?

% of all responses



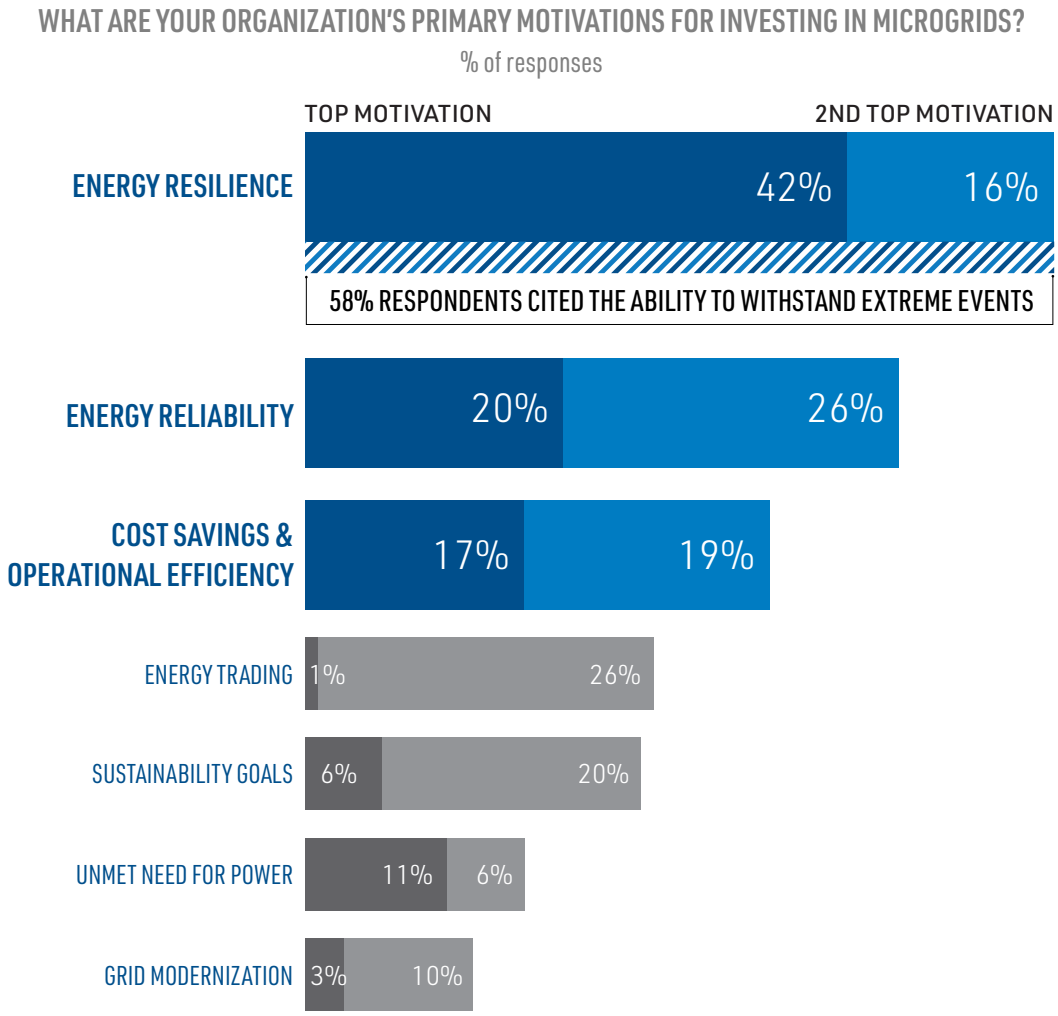
WHY MICROGRIDS? RESILIENCE, RELIABILITY, AND ROI

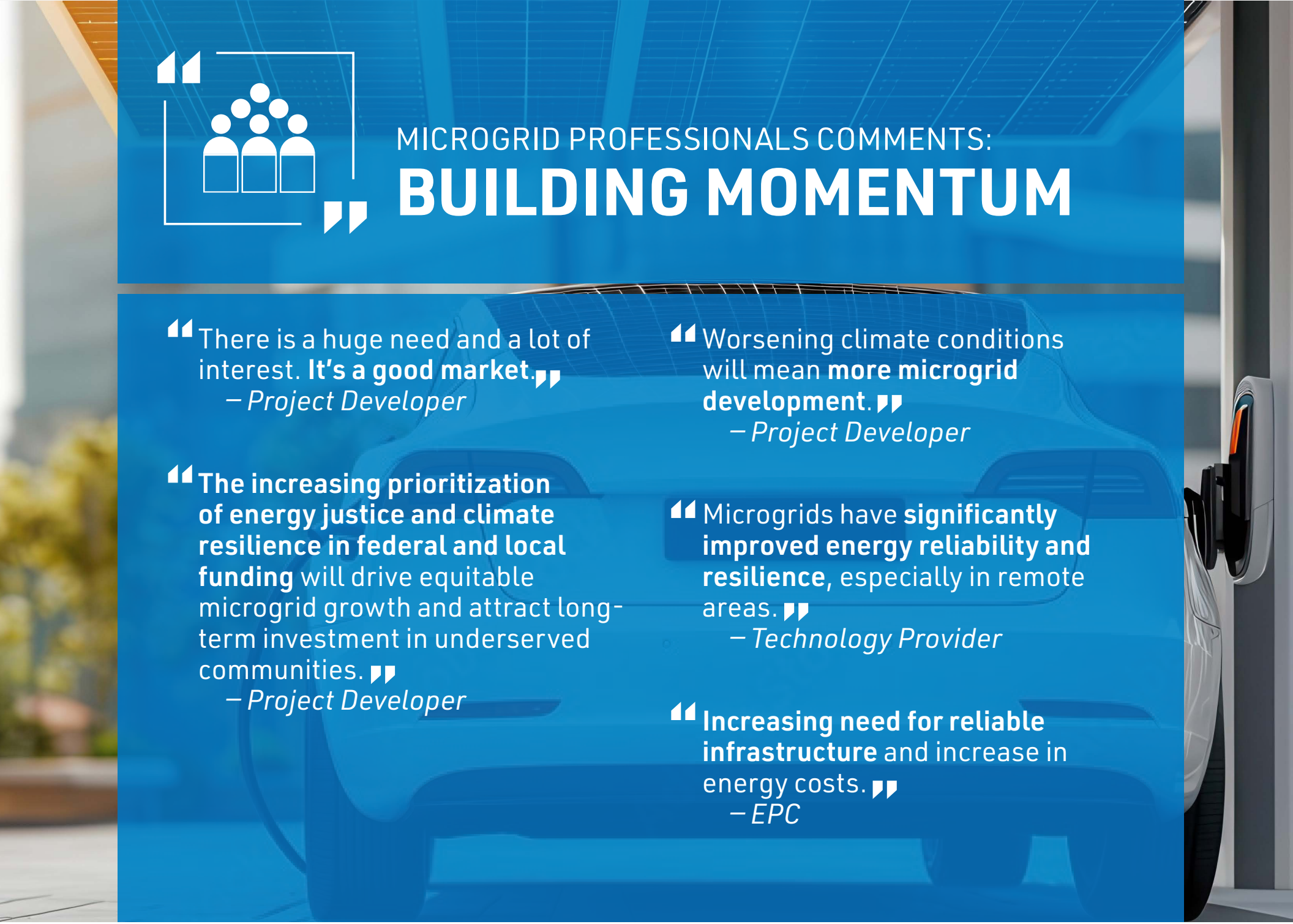
Microgrids aren't just gaining momentum—they're being pulled forward by a mix of motivations.

Resilience leads the charge, with a striking 58% of respondents citing the ability to withstand extreme events and grid instability as one of their top two reasons for investing in microgrids.

Reliability comes next, cited by nearly half of respondents. For critical operations–like **hospitals**, **manufacturers**, and **data centers**–uninterrupted power is non-negotiable.

Cost savings and operational efficiency complete the top three drivers, reinforcing that microgrids are valued not only for reliability but for measurable financial returns.





MICROGRID PROFESSIONALS COMMENTS:

BUILDING MOMENTUM

"There is a huge need and a lot of interest. **It's a good market.**"
– Project Developer

"**The increasing prioritization of energy justice and climate resilience in federal and local funding** will drive equitable microgrid growth and attract long-term investment in underserved communities."
– Project Developer

"Worsening climate conditions will mean **more microgrid development**."
– Project Developer

"Microgrids have **significantly improved energy reliability and resilience**, especially in remote areas."
– Technology Provider

"**Increasing need for reliable infrastructure** and increase in energy costs."
– EPC

02 CHALLENGES ABOUND

FINANCING MICROGRIDS ISN'T JUST ABOUT CAPITAL—IT'S ABOUT NAVIGATING A FRICTION-FILLED LANDSCAPE.

HIGH UPFRONT COSTS:

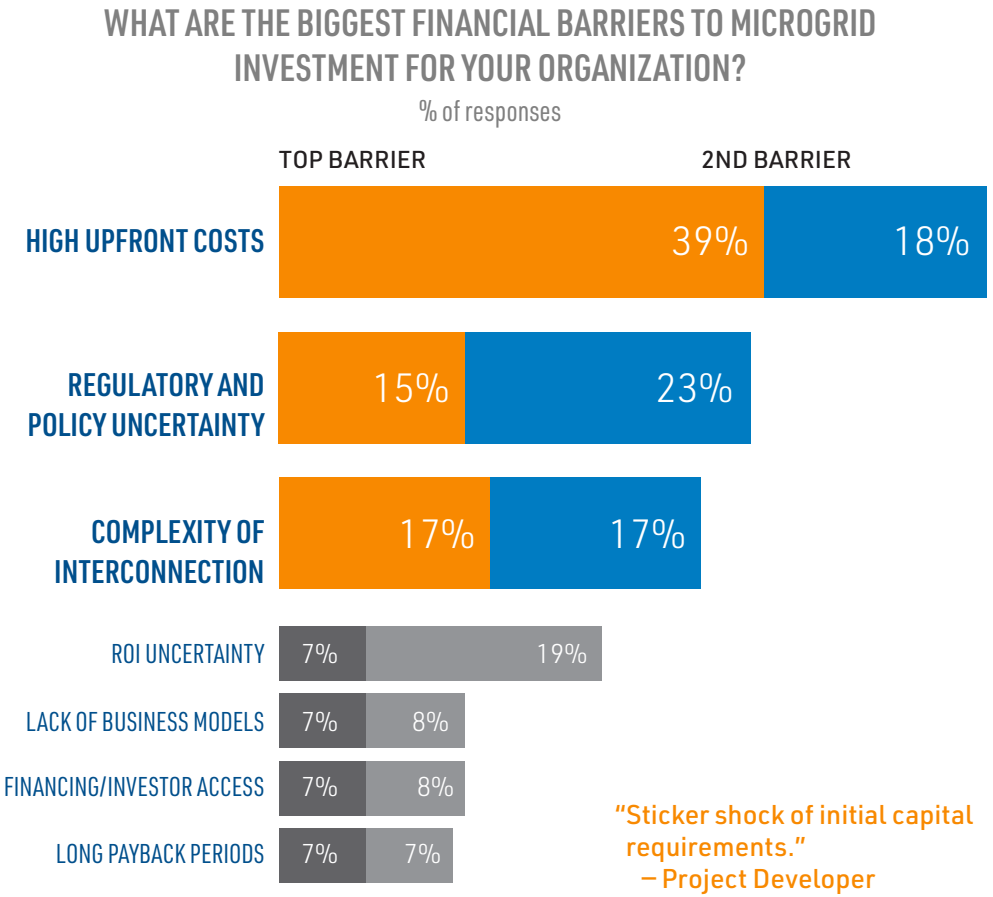
Nearly 4 in 10 respondents cited high upfront capital costs as the single biggest barrier to microgrid investment. IIt's not the long-term value, but rather the initial financial outlay that serves as a significant deterrent for many organizations.

REGULATORY AND POLICY UNCERTAINTY:

Regulatory and policy uncertainty, including shifting tariffs, remains a top concern. Constantly evolving incentives and trade policies create risk and hesitation for investors. When timelines stretch and shift, the cost of capital increases.

INTERCONNECTION COMPLEXITY:

Interconnection complexity adds delays that derail budgets. Utility coordination, permitting, and technical reviews are rarely straightforward, especially in areas lacking standardized processes.



"Sticker shock of initial capital requirements."
– Project Developer

"Regulatory uncertainty and lack of streamlined interconnection standards may stall microgrid adoption and discourage investor confidence."
– Project developer

"Sticker shock of initial capital requirements."
– Project developer

WHILE FINANCING HURDLES OFTEN TAKE CENTER STAGE, THEY ARE NOT THE ONLY ASPECTS TO CONSIDER.

These hidden risks don't always show up in the pro forma – but they can quietly derail momentum.

WHAT DO YOU BELIEVE WILL HAVE THE GREATEST NEGATIVE IMPACT OF MICROGRID GROWTH AND INVESTMENTS?

Significant Respondent Themes

POLICY WHIPLASH & TARIFF TROUBLE

- Shifting political priorities and changing incentive structures are a constant worry. Several cited:
  - Removal of federal funding
  - Looming tariffs on batteries and electronics
  - Broader unpredictability of climate and energy policy.

SUPPLY CHAIN STRAIN

- Lead times and access to key components continue to hamper project timelines.
- Volatility in global markets and regulations add to the strain.

UTILITY RESISTANCE & INTERCONNECTION ROADBLOCKS

- From permitting delays to strict utility regulations, some respondents perceive utilities to be reluctant partners.
- Interconnection complexity remains a frequent source of hidden setbacks.

MARKET UNCERTAINTY

- With the ecosystem still evolving, investors and developers alike struggle to predict what's next.
- Questions around incentive longevity, long-term grid integration, and project valuation make it harder to commit.

MICROGRID PROFESSIONALS COMMENTS:

SIGNIFICANT THEMES

"**Tariffs** and c**anceling of IRA incentives**."
– Consultant

"Possible **loss of microgrid** and **renewable energy tax credits**."
– EPC

"**Supply chain constraints for key components** – like switchgear, batteries, and advanced controls – could slow deployment."
– Utility or Energy Provider

"**The microgrid industry has not figured out how to partner** with investor-owned utilities."
– Energy Customer

"Regulatory uncertainty and a **lack of streamlined interconnection standards** may stall microgrid adoption and discourage investor confidence."
– Project Developer

"**Perception that this is radically different from other**, more normalized methods for meeting demand growth needs."
– Project Developer

CAN CREATIVE FINANCING AND STRATEGIC PARTNERSHIPS DRIVE MICROGRID SUCCESS?

Getting a microgrid off the ground takes more than technical savvy–it takes the right capital strategy.

THIRD-PARTY OWNERSHIP MODELS:

Nearly half of the respondents are turning to third-party ownership models like Power Purchase Agreements (PPAs) and Energy-as-a-Service to make the financials work. These models shift complexity and cost off the balance sheet, making them especially attractive for organizations focused on resilience but short on upfront funding.

CUSTOMER-OWNED SYSTEMS:

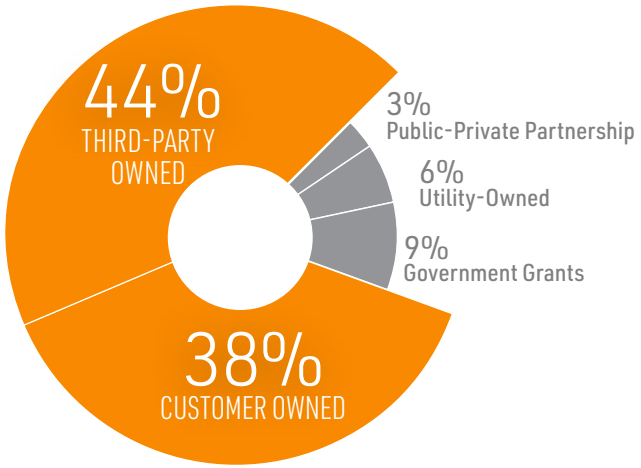
Despite the popularity of third-party models, customer-owned systems still account for a significant share, particularly among those with access to internal capital and a long-term view.

LONG PAYBACK PERIODS:

Most facility owners and operators expect it will take at least 5-10 years to recoup their investment, with many bracing for even longer horizons. This underscores the need for creative financing, strategic partnerships, and flexible expectations for microgrid success.

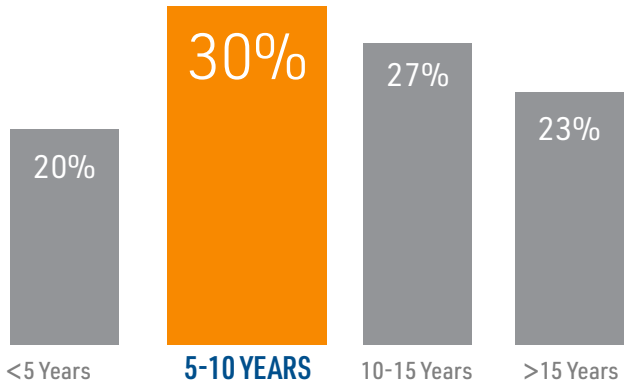
WHICH OF THE FOLLOWING MICROGRID FINANCING MODELS IS MOST COMMON?

% of responses



WHAT IS THE EXPECTED PAYBACK PERIOD FOR MICROGRID INVESTMENTS IN YOUR ORGANIZATION?

% of Energy Customers



03 OPTIMISTIC OUTLOOK

INVESTMENT IS ACCELERATING AND SO ARE THE TECHNOLOGY CHOICES.

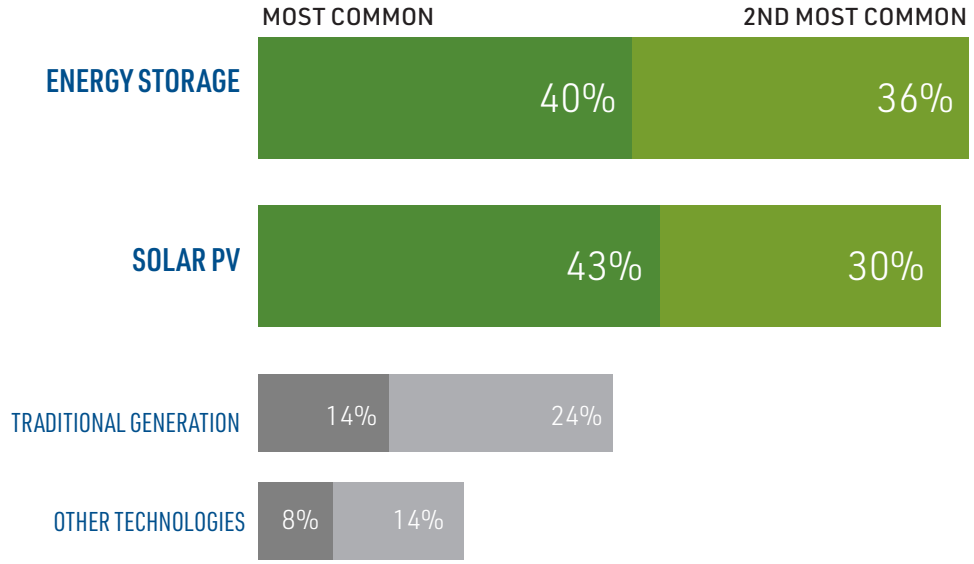
INVESTING WITH INTENT

For energy customers already in the game, the journey is just beginning. Most expect to boost spending in the years ahead, signaling a shift from pilot projects to long-term strategies.This growth mindset reflects not only increased familiarity, but also mounting pressure. As demand for reliability and resilience grows, microgrids are becoming a foundational part of the infrastructure conversation.

DRIVEN BY MATURING TECHNOLOGY

Underlying this confidence is another shift: distributed energy technologies are maturing fast. Respondents say battery storage and solar PV now lead as the most common DERs, surpassing traditional sources like diesel and gas. Technology is catching up to ambition. As renewables, storage, and controls become more viable and scalable, microgrid risk decreases–and investor confidence rises.

WHICH TWO DISTRIBUTED ENERGY RESOURCES (DERS) ARE MOST COMMONLY CONSIDERED IN YOUR MICROGRID PROJECTS?



> As extreme weather events and utility constraints become more common, organizations are seeking solutions that offer energy independence, reliability, and cost savings. Microgrids–especially those that integrate renewables, battery storage, and market participation–are becoming a critical tool to meet these goals.
>
> *- Energy Customer*

MOMENTUM IS BUILDING — BUT NOT WITHOUT FRICTION.

To keep the microgrid market moving, stakeholders pointed to several critical areas that need attention. From policy certainty to maturing technology, these are the levers respondents say are most critical for driving microgrid momentum.

WHAT DO YOU BELIEVE WILL HAVE THE GREATEST POSITIVE IMPACT OF MICROGRID GROWTH AND INVESTMENTS?

SIGNIFICANT THEMES AND REPRESENTATIVE COMMENTS

TECHNOLOGY & COST REDUCTION

- Lower-cost batteries, smarter controls, and more modular systems could push microgrids into the mainstream.
- Innovation is happening, but affordability and simplicity still lag behind.

POLICY & REGULATION

- Supportive, consistent policy is a prerequisite.
- Respondents called for clearer rules on interconnection, incentives, and utility coordination – with urgency.

RELIABILITY & RESILIENCY

- Growing demand for dependable, on-site power – especially in critical sectors – is a tailwind.
- As weather events increase, so does the urgency.

AWARENESS & EDUCATION

- The microgrid market is still maturing–and many would-be adopters don't know where to start.
- From community engagement to customer buy-in, more visibility and knowledge-sharing could accelerate adoption.

BUSINESS MODELS & ECONOMICS

- More flexible models like energy-as-a-service are helping, but the economics still need to evolve.
- Clarity around long-term value is key.

MICROGRID PROFESSIONALS COMMENTS:

SIGNIFICANT THEMES

"**Cost reduction** will drive growth and additional investment in controls, storage, etc."
– Technology Provider

"**Declining cost** of **lithiumion batteries**."
– Consultant

"**Government investments that subsidize overall cost** to develop microgrids and standardize processes to speed up microgrid deployment."
– Utility or energy provider

"**Regulatory policy** support."
– Energy Customer

"Demand for **improved energy resiliency**."
– EPC

"Weather events continue to **support the business case**."
– Consultant

"**Knowledge, proven results and case studies**."
– EPC

"Ability to provide microgrid **solutions that produce meaningful cost reductions**!"
– Project Developer

"**Energy-as-a-service models** are reducing upfront capital barriers."
– Utility or Energy Provider

04 LESSONS LEARNED

WHAT SEPARATES STALLED PROJECTS FROM STANDOUT SUCCESS?

Microgrid pioneers have shared their stories, revealing the lessons they've learned from the front lines of microgrid development. These insights aren't theoretical best practices – they're real-world experiences earned through trial, error, and momentum.

1 ENGAGE EARLY.

GET YOUR STAKEHOLDERS – INTERNAL AND EXTERNAL – ALIGNED FROM THE START.

"Engaging local stakeholders early – whether it's utilities, municipalities, or community members – can make or break a project."

– Utility or Energy Provider

2 CLARIFY THE VALUE PROPOSITION.

MAKE THE 'WHY' OBVIOUS, AND EMPHASIZE THAT RESILIENCE ALONE MAY NOT CLOSE THE DEAL.

"Everyone wants the resilience factor, but few are willing to invest in the technology."

– Project Developer

3 BUILD IN RESILIENCE AND RELIABILITY.

MICROGRIDS THAT COMBINE RENEWABLE ENERGY AND STORAGE CREATE A STRONGER BUSINESS CASE BY IMPROVING ENERGY SECURITY AND LONG-TERM VALUE.

"We've realized that integrating renewable energy and storage can significantly enhance the value proposition of microgrids."

– Utility or Energy Provider

4 PLAN FOR COMPLEXITY.

NO TWO MICROGRIDS ARE ALIKE. EACH SITE DEMANDS TAILORED DESIGN, TECHNICAL SKILL, AND DEEP ENGINEERING KNOWLEDGE

"The microgrid needs to adjust to each site's conditions, so engineering skills and knowledge are required."

– Technology Provider

5 RETHINK FINANCING.

IF CAPITAL IS TIGHT, LOOK FOR PARTNERS – AND MODELS – THAT REDUCE THE BURDEN.

"PPAs eliminate the burden of upfront capital investment, allowing organizations to direct capital to their core business rather than tying it up in infrastructure."

– Utility or Energy Provider

A PARTNER YOU CAN RELY ON

FORWARD-THINKING SOLUTIONS

See how Mortenson's strategic development and collaborative construction partner engagement help organizations build facilities that redefine the industry. Check out these links:

Building facilities to support growing healthcare needs

- Allina Abbott Northwestern Surgical and Critical Care Center
- UW Health Eastpark Medical Center

Developing creative capital investment solutions

- National Jewish Health Center for Outpatient Health

Supporting underserved communities

- Esperanza Health Centers Brighton Park Clinic

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